



AMENDMENTS TO CLAIMS

Claim 1 (original): An assembly for an article of manufacture, the assembly comprising:

- a first member of the article of manufacture;
- a second member of the article of manufacture opposing the first member;
- a first expandable material disposed between the first member and the second member, the first expandable material configured for expanding a first amount upon exposure to a condition; and
- a second expandable material disposed between the roof bow panel and the outer roof panel, the second expandable material configured for expanding a second amount upon exposure to a condition, the first amount being greater than the second amount and the second amount being a volumetric expansion of about 5% to about 700%.

Claim 2 (original): An assembly as in claim 1 wherein the first member is a panel and the second member is a panel.

Claim 3 (original): An assembly as in claim 2 wherein at least a portion of the first member or the second member is configured as part of a roof of an automotive vehicle.

Claim 4 (original): An assembly as in claim 2 wherein the first expandable material is configured as a strip and the second expandable material is configured as a strip, both strips extending longitudinally with the panels.

Claim 5 (original): An assembly as in claim 4 wherein the first expandable material is configured as a plurality of strips and the second expandable material is also configured as a plurality of strips.

Claim 6 (original): An assembly as in claim 4 wherein the strip of the first expandable material is an extruded strip.

Claim 7 (original): An assembly as in claim 2 wherein the first expandable material has a post expansion density from about 0.005 g/cm³ to about 0.15 g/cm³ and the second expandable material has a post expansion density of about 0.16 g/cm³ to about 0.8 g/cm³.

Claim 8 (original): An assembly as in claim 2 wherein the first expandable material has a weight percentage of curing agent that is at least 10% less than a weight percentage of curing agent for the second expandable material.

Claim 9 (original): An assembly as in claim 2 wherein the second expandable material has a higher strength than the first expandable material upon expansion.

Claim 10 (original): An assembly as in claim 4 wherein the strip of the second expandable material is positioned adjacent a structural feature of at least one of the first member and the second member.

Claim 11 (original): An assembly as in claim 10 wherein the structural feature is a pair of protrusions and the strip of the second expandable material is positioned between the pair of protrusions.

Claim 12 (original): A roof assembly for an automotive vehicle, the assembly comprising:

- a roof bow panel of the automotive vehicle;

- an outer roof panel of the automotive vehicle generally opposing and substantially parallel to the roof bow panel;

- a first expandable material disposed between the roof bow panel and the outer roof panel, wherein:

- i) the first expandable material is configured for expanding a first amount upon exposure to a condition, the first amount being a volumetric expansion of between about 300% to about 800%;
and
a second expandable material disposed between the roof bow panel and the outer roof panel, wherein;
 - i) the second expandable material is configured for expanding a second amount upon exposure to a condition, the second amount being a volumetric expansion of between about 15% and about 250%; and
 - ii) the first material includes a weight percentage of blowing agent that is 30% greater than a weight percentage of blowing agent in the second material;

Claim 13 (original): An assembly as in claim 12 wherein the first expandable material is configured as a strip and the second expandable material is configured as a strip, both strips extending longitudinally with the roof bow panel and the outer roof panel.

Claim 14 (original): An assembly as in claim 13 wherein the first expandable material is configured as a plurality of strips and the second expandable material is also configured as a plurality of strips.

Claim 15 (original): An assembly as in claim 13 wherein the strip of the first expandable material is an extruded strip.

Claim 16 (original): An assembly as in claim 12 wherein the first expandable material has a post expansion density from about 0.005 g/cm³ to about 0.15 g/cm³ and the second expandable material has a post expansion density of about 0.16 g/cm³ to about 0.8 g/cm³.

Claim 17 (original): An assembly as in claim 12 wherein the first expandable material has a weight percentage of curing agent that is at least 10% less than a weight percentage of curing agent for the second expandable material.

Claim 18 (original): An assembly as in claim 12 wherein the second expandable material has a higher strength than the first expandable material.

Claim 19 (original): An assembly as in claim 14 wherein the strip of the second expandable material is positioned adjacent a structural feature of at least one of the first member and the second member and wherein the structural feature is a pair of protrusions and the strip of the second expandable material is positioned between the protrusions.

Claim 20 (original): A roof assembly for an automotive vehicle, the assembly comprising:

- a roof bow panel;

- an outer roof panel generally opposing and substantially parallel to the roof bow panel;

- a first expandable material disposed between the roof bow panel and the outer roof panel, wherein:

- i) the first expandable material is configured for expanding a first amount upon exposure to a condition, the first amount being a volumetric expansion of between about 300 % to about 800 %; and
- ii) the first expandable material includes at least 35% by weight ethylene copolymer;

- a second expandable material disposed between the roof bow panel and the outer roof panel, wherein:

- i) the second expandable material is configured for expanding a second amount upon exposure to a condition, the second amount being a volumetric expansion of between about 15% and about 250%;

- ii) the second material includes a weight percentage of blowing agent that is 30% greater than a weight percentage of blowing agent in the second material; and
- iii) the second material includes at least 35 % by weight of an epoxy material.

Claim 21 (original): An assembly as in claim 20 wherein the first expandable material is configured as a strip and the second expandable material is configured as a strip, both strips extending longitudinally with the panels.

Claim 22 (original): An assembly as in claim 21 wherein the first expandable material is configured as a plurality of strips and the second expandable material is also configured as a plurality of strips.

Claim 23 (original): An assembly as in claim 21 wherein the strip of the second expandable material is positioned adjacent a structural feature of at least one of the first member and the second member and wherein the structural feature is a pair of protrusions and the strip of the second expandable material is positioned between the protrusions.